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Summary

GAF Broadcasting Company, Inc. ("GAF"), the licensee of WNCN(FM), New York, NY, hereby petitions to deny the mutually-exclusive application for a new facility filed by The Fidelio

Mr. Crowley states that the only way requisite city coverage could be obtained is by increasing power, in which case Fidelio's 1 mV/m contour would extend beyond that of WNCN, violating the restrictions of Section 73.213(a) of the Commission's rules, pursuant to which Fidelio may not exacerbate any pre-existing "grandfathered" short-spacing to WNCN by extending its 1 mV/m field strength contour toward that of any short-spaced station. In the distorted antenna pattern which will be produced by Fidelio's corrective measures, the main lobes are the only directions where Fidelio's coverage can approach WNCN's. In the minima between the azimuths caused by this pattern, there will be serious voids in Fidelio's coverage rendering compliance with Section 73.315(a) impossible. Should Fidelio increase power to achieve such coverage, however, its 1 mV/m contour will extend beyond that of WNCN. In short, Fidelio must choose between violating the FCC's minimum coverage or short spacing requirements.

Additionally, Fidelio's application cannot also be granted because it will have a significant environmental impact under the FCC rules and Fidelio has failed to file the requisite Environmental Assessment. Pursuant to Section 1.1307(a)(4) of the FCC rules, Commission action on facilities that may affect buildings significant in American architecture or history, listed in the National Register of Historic Places, requires the filing of an Environmental Assessment explaining the consequences of an applicant's proposal. The Chrysler Building, on which Fidelio proposes to mount its antenna, is one of the most distinguished buildings in the world and was placed on the National Register of Historic Places in 1976. No broadcast antennas are presently located on the Chrysler Building.

Fidelio claims categorical exclusion from environmental processing under Note 1 to Section 1.1306(b) of the FCC rules because its antenna will be mounted on an existing building. By its own terms, however, that exclusion does not apply to proposals such as Fidelio's concerning significant architectural sites. Fidelio also claims exclusion under Note 3 to Section 1.1306(b), which applies to the construction of an antenna tower or supporting structure in an established "antenna farm." However, Fidelio is not proposing construction of a tower or supporting structure, but rather to mount its antenna on the side of the Chrysler Building. Nor can the base of the building's spire be considered an antenna farm, i.e., "an area in which similar antenna towers are clustered," because no other similar broadcast antennas are located on it.

Accordingly, Fidelio's application may not be considered until the applicant has filed the necessary Environmental Assessment concerning the adverse effects of its proposal on the historic Chrysler Building. The Commission must then solicit and consider the comments of the U.S. Department of the Interior, the State Historic Preservation Officer and the Advisaory Council on Historic Preservation, in accordance with their established procedures. 47 C.F.R. Sec. 1.1308(b)(Note).

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demonstrate that its proposal, if effectuated, will comply with the minimum coverage requirements of Section 73.315(a) of the Commission's Rules and other technical requirements. Furthermore, the Commission may not consider Fidelio's application because Fidelio has not submitted an Environmental Assessment, even though its application would constitute a significant environmental impact.

1. Fidelio's Proposal Fails To Comply With The Commission's Technical Requirements.

Fidelio's application is not acceptable for filing because its technical proposal, particularly with regard to the configuration and coverage pattern of its antenna, is riddled with ambiguities and uncertainties, and, if effectuated, would violate important technical requirements. Initially, Fidelio has failed to demonstrate compliance with RF radiation requirements. Furthermore, although Fidelio claims that its 3.16 mV/m contour will cover almost all of New York City, measures necessary to limit RF radiation exposure will effectively limit such coverage to less than 80 percent. By utilizing the shielding or similar techniques which Fidelio proposes to address the RF radiation problem, a highly irregular antenna pattern would result. With such an antenna pattern, it will be impossible for Fidelio to comply with both the minimum coverage and minimum spacing rules.

Section 73.315(a) of the FCC Rules requires an FM broadcast station to operate so as to place a minimum field strength of

3.16 mV/m (70 dBu) over the entire community to be served. 47 C.F.R. Sec. 73.315(a). Commission policy requires an FM licensee to place this minimum field strength over at least 80 percent of the community of license. Less than 80 percent coverage must be fully justified by a waiver request. Naguabo Broadcasting Co., 68 RR 2d 1325, 1330 (Rev. Bd 1991); John Sterlitz, 6 FCC Rcd 497 at ¶10 (HDO 1991). Fidelio claims that its proposed station's 3.16 mV/m contour would cover 99 percent of the land area and nearly 100 percent of the population of New York City. Fidelio Application, Engineering Exhibit, Statement A.

Section 1.1307(b) of the FCC Rules requires an applicant to determine whether human exposure to RF radiation from its proposal would constitute a significant environmental impact. 47 C.F.R. Sec. 1.1307(b). Fidelio's application concedes that the Chrysler Building contains offices "which might be located close to the FM antenna," although Fidelio claims that it is not

Fidelio's plan to install an antenna on an occupied building required it to determine, using the calculation procedures specified in OST Bulletin No. 65, that RF radiation levels would be permissible. 47 C.F.R. Sec. 1.1307(b). It failed to do so. Instead, it merely asserts that if RF radiation levels are too high, it will take corrective measures. This is inadequate under the Commission's Rules for certifying compliance with the RF guidelines and renders the application defective.

Fidelio recognizes that it must demonstrate compliance with the guidelines, and asserts that the "worst case" guidelines shown in OST Bulletin No. 65 will not be exceeded at any point "on the ground." Engineering Exhibit, Statement D, at 2 (emphasis added). But it fails to make a similar finding with regard to radiation exposure in the building. The fact that the

RF radiation at a site such as the Chrysler Building, RF radiation levels will exceed the guidelines.

In addition, installation of the corrective measures suggested by Fidelio, such as shielded window glass, to protect building occupants from RF radiation exposure, will seriously distort and reduce the broadcast signal from Fidelio's station, and place it in violation of FCC Rules. Mr. Crowley's Technical Statement demonstrates that such corrective measures would essentially eliminate Fidelio's signal in the directions that are blocked by the Chrysler Building. In other words, because Fidelio proposes to mount its antenna on the side of the Chrysler Building, if shielded window glass is installed to protect occupants from harmful RF radiation, Fidelio's signal will no longer be able to pass through the building, resulting in a "shadow" to the coverage area.

Attached to Mr. Crowley's Technical Statement as Figure 1 is an example of the magnitude of signal distortion that can be expected to occur. That Figure, depicting the relative horizontal and vertical polarization field patterns of an FM antenna mounted on the leg of a tower, demonstrates the substantial reduction in signal due to blockage by the tower. While Fidelio proposes to mount its antenna on the side of a building rather than on the leg of a tower, Mr. Crowley believes it is probable that the Chrysler Building would impose equal or greater signal suppression. Technical Statement at 2-3.

Mr. Crowley concludes that "[o]btaining at least 80 percent city coverage with the 3.16 mV/m (70 dBu) contour with such a pattern appears to be impossible because of Fidelio's reliance on processing under the provisions of Section 73.213(a)" of the FCC Rules. Technical Statement at 3. Section 73.213(a) of the Commission's Rules requires that Fidelio's 1 mV/m field strength contour not be extended toward the 1 mV/m contour of any short-spaced station. In other words, Fidelio is not allowed to exacerbate any preexisting "grandfathered" short spacing of WNCN.2/ However, with the distorted antenna pattern which will be produced by Fidelio's measures to correct its RF radiation problem, the main lobes are the only directions where Fidelio's coverage can approach WNCN's. In the minima between the azimuths caused by Fidelio's distorted coverage pattern, there will be serious voids in Fidelio's coverage rendering compliance with Section 73.315(a) impossible. Mr. Crowley states that the only way requisite city coverage could be obtained is by increasing power, in which case Fidelio's 1 mV/m contour would extend beyond that of WNCN, violating the restrictions of Section 73.213. FCC limitations on effective radiated power would likely have to be waived as well. In short, Fidelio would

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2/ Fidelio recognizes that both WNCN and its own proposal are short-spaced to four stations: WFAS, White Plains, NY; WIOF, Waterbury, CT; WAEB, Allentown, PA; and WYXR, Philadelphia, PA. Fidelio Application, Engineering Exhibit, Statement B.

be forced to choose between violating the minimum coverage rules or the separation requirements. Technical Statement at 3-4. In either case, its application is unacceptable for filing.

Fidelio's application states that if "further engineering studies" reveal that its placement of an antenna on the side of the Chrysler Building results in shadowing or multipath problems, it will take corrective measures. According to Fidelio, "[i]n other similar situations, such corrective measures have included custom antenna designs with multiple elements on various sides of the structure." Fidelio Application, Engineering Exhibit, Statement A. In his attached Technical Statement, Mr. Crowley concludes that shadowing is unavoidable due to the obstruction posed by the Chrysler Building. However, mounting an antenna on each face of the building would not be a typical solution, as implied by Fidelio, because there is no known FM broadcast antenna installation having the physical dimensions of the Chrysler Building. Mr. Crowley states that such an installation, consisting of four or more antennas instead of one, could result in severe interference patterns due to the out-of-phase addition of energy from the multiple antennas. This signal cancellation could also result in less than 80 percent city coverage. Mr. Crowley further states that the impact on city coverage can only be determined by reviewing a complete engineering proposal concerning Fidelio's novel antenna scheme. Technical Statement

at 4. However, Fidelio has failed to provide the Commission with such complete information.

Although Fidelio claims that it will achieve nearly 100 percent coverage of New York City's population, its application includes a blanket request for waiver of Section 73.315 "in the event that such a waiver is required," without further explanation. Fidelio Application, Engineering Exhibit, Statement A. The Commission cannot grant Fidelio's waiver request, however, because the applicant has utterly failed to justify it. See WAIT Radio v. FCC, 418 F.2d 1153, 1157 (D.C. Cir. 1969), cert. denied, 409 U.S. 1087 (1972) (an applicant for waiver faces a high hurdle at the starting gate, and must plead with particularity the facts and circumstances which warrant such action). Section V-B, Item 11 of FCC Form 301 requires an applicant which will not satisfy the requirements of Section 73.315 to provide justification therefore, specifically indicating the amounts and percentages of population and area that will not receive 3.16 mV/m service. Because Fidelio failed to ascertain the measures which will be necessary to cure the admitted RF radiation hazard to occupants of the Chrysler Building, Fidelio was unable to make a reliable showing of unserved areas in its application. Compare Teton Broadcasting Limited Partnership, 61 RR 2d 1288, 1291 (1986) (Commission would not grant waiver of antenna height requirement where the applicant provided no detail as to the reason for

noncompliance, public interest factors in support of a waiver, or reference to precedent favoring a waiver).

Nor would a waiver be justified. By comparison, another applicant, Class Entertainment and Communications, L.P., claims that its proposal will provide 99.95 percent coverage of New York City's population. File No. BPH-910430ME. GAF's modified facilities will cover 99.9 percent of that population. File No. BPH-910116IB. Accordingly, despite the absence of a fully-spaced site, it is clear that technically superior sites were available that would have provided Fidelio with significantly greater coverage.

In short, Fidelio fails to demonstrate that its proposal would comply with the FCC minimum coverage requirements, in light of the need for RF radiation shieldings and likelihood of shadowing problems resulting from its proposal to mount its antenna on the side of the Chrysler Building. Nor has it provided any justification for waiver of the rule. Fidelio may

combination). Accordingly, Fidelio's unsupported waiver request must be denied, and its application returned as unacceptable for filing.

2. Fidelio's Application May Not Be Granted Without An Environmental Assessment.

Fidelio's application cannot be granted because it will have a significant environmental impact under the FCC Rules and Fidelio has failed to file the requisite Environmental Assessment to allow the Commission to commence environmental processing.3/ Fidelio proposes to mount its antenna on the side of one of the most distinguished buildings in all the world, which has been designated a landmark and was placed on the National Register of Historic Places in 1976. Given the proposed location of Fidelio's antenna on this building, the filing of an Environmental Assessment and appropriate processing by the Commission are vital.

Pursuant to Section 1.1307(a)(4) of the FCC Rules

environmental consequences of an applicant's proposal. Further

"monument to America's 'machine age'." At one time it was the tallest building in the world. Nomination Form at 2. Fidelio's proposed antenna would protrude from one of the most architecturally-distinctive features of the Chrysler Building, its spire.

Fidelio claims that its proposed construction will have

FCC Rules because its antenna will be mounted on an existing building. By its terms, however, that exclusion does not apply to proposals such as Fidelio's concerning significant architectural sites, which fall under the provisions of Section 1.1307(a)(4). 47 C.F.R. Sec. 1.1306(b). See Environmental Rules, 65 RR 2d 116, 118 (1988) (amending Note 1 to Section 1.1306(b) in order to make clear that "antennas built on existing structures that are historic properties or that may affect historic properties are not categorically excluded").

Next, Fidelio claims exclusion under Note 3 of Section 1.1306(b), which applies to the construction of an antenna tower or supporting structure in an established "antenna farm." However, Fidelio is not proposing construction of a tower or supporting structure, but rather to mount its antenna on the side of the Chrysler Building. Nor can the base of the building's spire be considered an antenna farm. "[A]n area

3. Conclusions.

Fidelio's application is unacceptable for filing. Its technical proposal is riddled with ambiguities and uncertainties. Although measures necessary to limit RF radiation exposure to office workers will prevent it from covering the requisite 80 percent of New York City, Fidelio has failed to justify a waiver of the FCC coverage rules. Fidelio has also failed to explain how it would address likely shadowing problems. Furthermore, Fidelio's proposal constitutes a significant environmental impact on an historic building, and may not be considered without preparation of an Environmental Assessment and environmental processing by the Commission.

WHEREFORE, it is respectfully submitted that the Fidelio application must be denied and returned as unacceptable for filing.

Respectfully submitted,

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Date: November 19, 1991

EXHIBIT NO. 1

Technical Statement Of Steven J. Crowley,
du Treil, Lundin & Rackley, Inc.

TECHNICAL STATEMENT
REGARDING APPLICATION FOR CONSTRUCTION PERMIT
OF THE FIDELIO GROUP, INC.
FOR CHANNEL 282B
NEW YORK, NEW YORK

This Technical Statement has been prepared for GAF Broadcasting Company, Inc., licensee of WNCN(FM), New York, New York (WNCN), in response to the application for construction permit of The Fidelio Group, Inc. (Fidelio), for a new FM station serving New York, New York.

It is demonstrated that coverage from the Fidelio proposal cannot be what is claimed, making compliance with the Commission's rules unlikely. Furthermore, it is shown that the Fidelio proposal requires the preparation of an environmental assessment.

1. Introduction

WNCN operates on channel 282B with an effective radiated power of 7.8 kilowatts and antenna height above average terrain of 378 meters[1]. WNCN holds a construction permit for operation on the same channel and location with an effective radiated power of 6.0 kilowatts and antenna height above average terrain of 415 meters[2]. Predicted coverage from both facilities is essentially identical.

Fidelio is proposing operation from the Chrysler Building on channel 282B with an effective radiated power

[1] See FCC File No. BLH-840217BG.

[2] See FCC File No. BPH-910116IB.

of 23 kilowatts and antenna height above average terrain of 211 meters[3].

2. Fidelio's Technical Proposal Fails to Demonstrate Compliance With Section 73.315(a) of the Commission's Rules

As detailed below, Fidelio's technical proposal is riddled with ambiguities and uncertainties. Fidelio admits that "corrective measures" are likely to be necessary to address problems related to excessive human exposure to radio frequency radiation and shadowing. While Fidelio alludes to certain modifications which might be employed, such as mounting a separate antenna on each face of the Chrysler Building, Fidelio fails to provide sufficient details regarding the effects of such measures on Fidelio's overall coverage to allow the Commission to gauge Fidelio's compliance with Commission requirements regarding minimum coverage (Section 73.315(a)).

On the basis of standard FCC-accepted formulas, it can be shown that in the absence of signal attenuation, humans cannot be closer than 39.1 meters to the Fidelio antenna[4]. This is the distance where the predicted power density from the Fidelio antenna falls below 1 milliwatt per square centimeter (mW/cm^2), which is the maximum permissible human exposure permitted by the FCC. This can be considered a best-case calculation in that it ignores contributions from other radio-frequency sources.

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[3] See FCC File No. BPH-910502MQ.

[4] FCC OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation", Page 8, Equation 4.

Fidelio notes that human exposure to radio-frequency radiation might be limited due to the "substantial attenuation . . . due to the steel-reinforcing of the [building] walls."[5] After construction, if measured RF levels exceed the FCC's guidelines, corrective measures including the installation of shielded glass are to be taken[6]. These measures, unfortunately, will have the undesired effect of essentially eliminating Fidelio's signal in directions that are blocked by the Chrysler Building. And on the basis of the above prediction, it appears such extraordinary measures will indeed be necessary.

Figure 1, attached, is an example of the magnitude of signal distortion that could occur. Generated by Shively Labs, an FM antenna manufacturer, it is a pattern of the horizontal and vertical polarization relative field patterns of an FM antenna mounted on the leg of a tower. There is substantial reduction in the signal in the directions that are blocked by the tower, down to a relative field of .14 (-17.1 dB) for the horizontal plane pattern.

While the Fidelio antenna will not be mounted on a five-feet face tower used in this example, it is probable that the Chrysler Building will cause an equal or greater suppression of the signal. Obtaining at least 80 percent city coverage with the 3.16 mV/m (70 dBu) contour with such a pattern appears to be impossible because of

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[5] See Fidelio application, Statement D, Page 2.

[6] Ibid.

Fidelio's reliance on processing under the provisions of Section 73.213(a)[7]. Those provisions require that the 1 mV/m field strength contour not be extended toward the 1 mV/m contour of any short spaced station. If such a distorted pattern is applied under those rules, the main lobes of the pattern are the only directions where 1 mV/m coverage can approach WNCN's. In the minima between those azimuths, coverage will fall well short of the maximum contour allowed pursuant to Section 73.213(a), which would appear to render Fidelio's compliance with Section 73.315(a) impossible. The only way requisite city coverage could be obtained is by increasing power, which would obviously violate the 1 mV/m restrictions of Section 73.213. The Commission's effective radiated power limitations would likely have to be waived as well. Fidelio faces the quandary of deciding which technical standards to violate.

Fidelio notes that if further engineering studies reveal shadowing will be a problem, it will undertake to eliminate those problems. As noted above, however, shadowing is unavoidable due to the obstruction posed by the building. One potential solution held out is the mounting of an antenna on each face of the building.[8] Fidelio represents that this is a typical solution to solving this type of problem. However, there is no known FM broadcast antenna installation having the physical dimensions of the Chrysler Building. Such an